

# SAEINDIA REEV 2024



**Towards a Carbon Neutral World!**



**EXPERIENTIAL LEARNING STUDENT COMPETITION**



SAEINDIA REEV



SAEINDIA\_BENGALURU\_SECTION

# About SAEINDIA REEV

Globally we are witnessing a technology shift in Automotive Propulsion towards electrification and Students in the Engineering community have to be the front runners in this change. SAEINDIA Bangalore has initiated REEV (Range Extended Electric Vehicle) in the 4 wheeler Urban Mobility space.

REEV is a competition that has primary focus on range and fuel efficiency. The competition is going to drive the new age technologies in automotive industry, hybridization, light weighting, optimization, range extension, fuel awareness etc.

## REEV 2024 FINALE AWARDS(SEP'24):

SAEINDIA REEV Winner	1,50,000/-
1st Runner up	1,00,000/-
2nd Runner up	75,000/-

Additional Awards also planned for **REEV Virtual Winners(Oct'23)**  
& **REEV Hybrid Bench Winners(May'24)**

“  
**Towards  
a Carbon  
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World!**  
”

### Benefit to the Students:

Getting industry ready

- Focus of this competition will be in the areas of Energy Balancing, Safety & New Technologies.
- Hands on Simulation Training on IPG CarMaker, ANSYS, MATLAB, ABAQUS and other analysis tools for students.
- Core Product Engineering Knowledge sharing Sessions by Industry Experts.
- Best Student Champion Awards.

### Benefit to the Faculty Advisor:

Exclusive sessions on various technology topics by Industry experts.

- 4-Half Day sessions on Technical & Product development.
- Visit to State of the art Testing facility in India.
- Best Margdarshak(faculty) Awards.

### Recognition Awards:

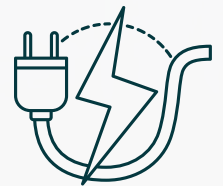
Special Recognition Award for the team that generates highest sponsorship amount for their team.

Each team will be mentored by Industry experts.



# TECHNICAL SESSION TOPICS:

- |   |   |
|---|---|
|  Understanding of Vehicle Dynamics Applications - I                 |  Understanding of Vehicle Dynamics Applications - II                                       |
|  EV Powertrain Optimization   |  Electric Drives   |
|  Automotive Safety and Crashworthiness - I & II                     |  Steering, Suspension and Brakes Fundamentals - I  |
|  Steering, Suspension and Brakes Fundamentals - II                  |  Application & Base Software Development   |
|  DFMEA, Costing Fundamentals  |  Roll cage Design and Validation, Interiors and Ergonomics                                 |
|  Electrical integration and Controllers - I & II                    |  Vehicle Development & Program Management  |
|  Fundamentals of Automotive Noise, Vibration and Harshness - I & II |  Fundamentals of Propulsion, Batteries, Energy & Hybrid concepts in Automotive Application |



## Event Details

3rd Edition **Registration Starts:** March 2023

**Registration Closes:** 15th May 2023

**Technical Sessions / Simulation Workshop:** May to August 2023

**VCU (MCM) Control Systems Check:** Aug to Oct 23

**REEV Virtuals** (Design simulations Event): October 2023

**REEV Hybrid Bench** (Bench Video Submission): March 2024

4th Edition **Registration Starts:** March 2024

3rd Edition **REEV Hybrid Bench:** April / May 2024

4th Edition **Registration Closes:** 15th May 2024

3rd Edition **REEV Finals** (Vehicle Readiness): Aug / Sept(Q3) 2024



## ADVISORY BOARD MEMBERS :



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GM Engineering.  
Director



**J. Munirathnam**  
Javaji M Consulting Pvt Ltd  
CEO



**Damodaran SUBRAMANIAN**  
AVTEC  
Vice President- Aerospace & Defence

## STEERING COMMITTEE MEMBERS :



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Vitesco Technologies  
Head of Engineering  
SAEIBS Chairman



**Rakesh Bidre**  
TCS  
Head of Virtual Product Development  
& SAEIBS Vice Chairman



**Sunil Gupta**  
TCS  
Sustainability

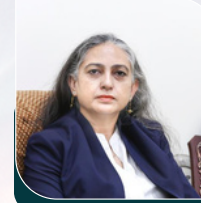
## ORGANIZING COMMITTEE MEMBERS :



**Vijay Ramakrishnan**  
TCS  
Delivery Manager & SAEIBS MC



**Chandrashekar Prasad S**  
TCS  
Delivery Head - Veh Perf, IMDS & Test Labs  
Convener SAEINDIA REEV



**Pamela Tikku**  
ICAT  
Sr. GM



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Project Manager



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**Vijay Kumar Kudtalker**  
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Technical Leader



**Shubham Kant**  
TVS motor  
Deputy manager



**Ashish kumar Das**  
TVS Motor  
NVH



**Balaji Srinivasan**  
TVS motor  
Assistant manager R&D



**Padmesh Sewda**  
IQL , TVS motor  
Program manager - CD (NPD,EV)

## Supported By



## TESTIMONIALS



**Mr. Dhaanish mohamadu**

“

REEV is a revolutionary platform that was organized by the efforts of SAE INDIA in collaboration with GM. It's gives me an immense pleasure to share this victory to our college management and the SAE INDIA REEV who provided us an enormous support.

**Mr. Honey Kethan**

”



It was a wonderful journey of engineering for me with vehicle design going on one side and academics on the other. Students like me learn by trying to apply what we learn in class to real life, and REEV helps us do exactly that. As an automobile engineering student, who doesn't dream of building a vehicle? Dreaming in classes about theories, concepts, and their relatability to REEV triggered my interest in the field. Getting industry exposure and connections is very important for any engineering student, which SAEINDIA ensures our competence by connecting us with industry experts in particular sub-systems. Additionally, each team is provided with two dedicated industrial mentors who are very supportive and kind, but at the same time they make us talk consciously, work accountably and learn exponentially.

**Prof. Udaya Ravi Mannar PhD, FIE**

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REEV (Range Extended Electric Vehicle) competition conceived, planned and executed by SAEINDIA Bengaluru Section is a wonderful event. It is a hybrid vehicle building competition and one of its kind among different vehicle building competitions in India. In today's world of heavy pollution and depleting fossil fuels, the world is talking about green energy and electric vehicles. Hence, building a hybrid vehicle is the need of the hour. It is a real testimony to the talent of young minds.





# SAEINDIA REEV

## 3rd Edition

"TOWARDS A CARBON NEUTRAL WORLD"

## Convernor's Note

**Chandrashekar Prasad S**

**Delivery Head, TCS & SAEINDIA REEV - Convenor**

The Range Extended Electric Vehicle is a journey of experiential learning for students from all disciplines of Engineering which culminates with a competition to keep up the aspects of Energy, Education & Enthusiasm among all the participants be it the Students or Faculty or Industry experts.

After successful completion of 2nd Edition in January 2023, the Team REEV, comprising of enthusiastic faculty from Engineering educational institutions and passionate leaders from the industry have kicked off the 3rd Edition in March 2023.

Inline with the tag line "Towards Carbon Neutral World", in the 3rd edition the REEV team intends to work with students on Sustainability Development Goals (SDG) so that they start understanding Industry expectation on Sustainability. The outlook will be to explore alternatives which are less Carbon intensive. The Safety aspects will also be emphasized. In this way this program is unique as the students will get to understand on how to build a vehicle under tough boundary conditions as experienced in the industry.

There are Three major milestones for this program:

1. REEV Virtuals (Design simulations Event) - October 2023.
  - a. Theory & Practical sessions by Industry experts during the above period.
  - b. REEV Simulation Competition (Full Vehicle & MCM Level).
2. REEV Hybrid Bench (Propulsion Readiness): April / May 2024
  - a. Development & demonstration: App's, Controller, Test bench (EV & Hybrid), Cost, Virtual engineering, Go Green / Innovative POC's to name a few.
  - b. Bench Level Sub Systems Integration
3. REEV Finals (Vehicle Readiness & Launch): Aug / Sept(Q3) 2024
  - a. Physical Vehicle build
  - b. Safety Engineering.
  - c. Planning, Manufacturing, Assembly, Testing, Validation & Cost.
  - d. Handholding & guidance from Industry experts.

During the entire journey there will exclusive mentor from industry to each participating team to handhold & guide.

With this REEV journey & experiential learning, the industry expects students make a head start in their professional career once they are out of college & in real world.

## Reach us



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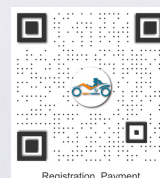
Mr. Pavan



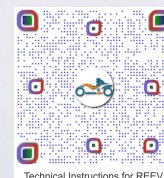
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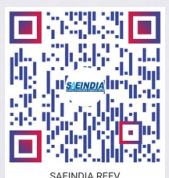
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Registration\_Payment



Technical Instructions for REEV



SAEINDIA REEV